Reviewer’s report

Title: Adverse childhood events and risk of diabetes onset in the 1979 National Longitudinal Survey of Youth Cohort

Version: 2 Date: 11 Apr 2019

Reviewer: Susan Marshall Mason

Reviewer's report:

I appreciate the authors' responses to my comments.

My remaining concern is about the mediation analyses. I understand the authors' comments about the difficulty of examining interactions between the exposure and mediators in their analysis, and the reasons they see the Vanderweele approach as incompatible with their data and aims. However, it should be noted that the assumptions the Vanderweele article highlights (no interaction between exposure and mediator, no unmeasured exposure-outcome confounding, no unmeasured mediator-outcome confounding, no unmeasured exposure-mediator confounding, no mediator-outcome confounders - even measured - are affected by exposure) are not assumptions specific to his method - but assumptions that underlie the type of regression-based mediation analyses the authors performed. Though I realize they didn't do a "formal" mediation analysis, by adding mediators to the models and qualitatively assessing the difference in effect estimates, they are still relying on these assumptions. If the authors believe their data do not meet these assumptions, this affects the interpretation of their results; the Vanderweele approach simply makes these assumptions more transparent. Given that the authors feel their current approach is still best for this analysis, I think they need to explicitly list in the discussion (probably the limitations) the very strong assumptions that need to be met for their analyses to be meaningful.

One additional, minor comment: On Page 14 the authors state: "BMI was a strong predictor in underweight, overweight, and obese groups" → this is a bit confusing. Do the authors mean that, relative to normal weight, underweight, overweight, and obese weight status were strong predictors of T2DM?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?
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Yes

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